

Applicant: Donald L. Schilling
Application No.: 10/071,728

REMARKS

Reconsideration of the application, as amended, is respectfully requested. By this amendment, claims 1 and 5 have been amended and new claims 9-12 have been added. The changes to claims 1 and 5 define the generation of a remote reference signal. Claims 1 and 5 also have language defining the synchronization of the received and remote reference signals. Support is found throughout the specification, including paragraphs [0039]-[0040] and [0048].

New claims 9-12 define specific derivations of the remote reference signal. Support is found in the specification, for example at paragraph [0088].

In the Office Action, the drawings were objected to as failing to show certain steps. Accordingly, substitute drawing Figure 4 is submitted, showing these steps. These steps are believed to be adequately described in the description and are self-explanatory in the drawing.

Claims 1-8 were rejected under 35 USC §112, second paragraph, with respect to the claimed "combined spread spectrum signal" and the "reference signal". Claims 1, 2, 5, and 8 have been amended accordingly. The combined spread spectrum signal is transmitted. The claim does not specify how the signal is produced, but a description of this is found in the specification, for example in the description of element 103. The claim limitation is the transmitting of the combined spread spectrum signal. The reference signal is mentioned in the summary (paragraph [0011]). This term is also specifically used in paragraphs

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[0058] and [0073]. In general, the function is described throughout the specification as signals used as reference against which the spread spectrum spreading or despreading is performed.

The claims were rejected under 35 USC §112 as not enabled. It is believed that the revised claims fall under the descriptions set forth in the Office Action. The claims do not claim that the transmitter generates the reference signal of claims 1 and 5. The claims are to the spread spectrum remote unit, and the reference signal is detected. The claims define the reception of the signals described in the Office Action. This is as described in the specification, for example at paragraphs [0088] and [0089]. Accordingly, claims 1-8, as amended, and new claims 9-12, are believed to be fully supported.

In the office action, claims 5-8 were rejected under 35 USC §112, paragraph 2, as being incomplete with respect to a gap in the essential elements. It is believed that revised claim 5 overcomes this rejection.

In the Office Action, claims 1-4, as well as claims 5-8 were rejected under 35 USC §112, paragraph 2, as failing to particularly point out and distinctly claim the claimed subject matter. Both sets of the revised claims (represented by independent claims 1 and 5) are believed to address this issue, by defining means for combining (claim 1) or by defining combining the reference and message signals (claim 6). This is believed to overcome the rejections of these claims as incomplete.

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Accordingly, claims 1-8, as amended, and new claims 9-12, are believed to be in proper form.

In the Office Action, claims 1-8 were rejected under 35 USC §112, paragraph 2, as failing to particularly point out and distinctly claim the claimed subject matter with respect to how "the combined spread spectrum signal" are produced, and the recitation of "the reference signal". Accordingly, these terms have been revised by amendment. This is believed to overcome the rejections of these claims. With respect to "the combined spread spectrum signal" as presented in claim 1, the antecedent basis is found in the previous subparagraph, "... combining the reference signal and the message signal as a combined signal ..."

In the Office Action, the claims were provisionally rejected under the doctrine of obviousness-type double patenting over claims 1-6 of Application 10/072,083. Applicant is willing to submit a terminal disclaimer to overcome this rejection, if the Examiner deems the claims otherwise allowable.

In the Office Action, claims 1, 2, 5 and 8 were rejected under 35 USC §103 as obvious over Cowart, U.S. Patent 4,979,183, taken in view of Schilling, U.S. Patent No. 5,228,056. This rejection, as applied to the amended claims, is respectfully traversed.

Applicant's invention, as defined in claim 1 defines, *inter alia*, a spread spectrum communication system which receives a plurality of message signals.

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Independent claim 5 has similar limitations, presented in method form. A local reference signal generator and synchronization means are for detecting a reference signal within a received spread spectrum signal and generating a local reference signal. The local reference signal is synchronized with the received reference signal. This has the advantage, for example, of allowing a remote unit to synchronize with a base station, but use a local reference signal to perform despreading operations.

Cowart is cited as showing the use of a reference signal and a message signal in a spread spectrum transceiver. While it is noted that Cowart does not show the use of a remote unit, more significantly, there is no suggestion that the transceiver generates a remote signal. Cowart neither shows nor suggests synchronization of a reference signal generated by the transceiver with a detected reference signal.

Instead, Cowart uses a stable reference signal with no suggestion that the reference signal be generated in response to a received reference signal. Instead, the Cowart description is of the use of a quartz crystal standard with no outside reference. See Cowart at col. 7, lines 19-39.

Schilling '056 does describe a multi-user system and further describes, "The recovered-carrier signal from the generic-bandpass filter 125 serves as the reference signal for synchronously demodulating each of the plurality of message-data signals by the plurality of synchronous detectors, as a plurality of received data, d.sub.1 (t),

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d.sub.2 (t), , , d.sub.N (t)." Schilling '056 also describes generating a replica of the generic-chip-code signal, and using the replica of the generic-chip-code signal for despreading the spread-spectrum-communications. It is submitted that this combination is useful, but does not fully anticipate the present claimed invention. In addition, Applicant has (in the present application) defined, "... means to synchronize the local reference signal with the detected reference signal; and means, for recovering the message data of the plurality of message signals." (Text taken from claim 1; method claim 5 has similar limitations.) This is not described by the prior art of record taken in combination or individually.

These features are neither shown nor suggested by the prior art of record, when taken in combination or individually. Accordingly claims 1-8, as well as claims 9-12 are unobvious and allowable over the prior art of record.

In the Office Action, claims 7-9 have been rejected under 35 USC §103 as obvious over Cowart and Schilling, taken further in view of Gilhousen, et al., U.S. Patent 5,101,501. This rejection, as applied to the amended claims, is respectfully traversed.

Gilhousen, et al. describe a mobile CDMA system which communicates with mobile units. Each cell-site transmits a different "pilot-carrier" signal which is used by the mobile units. The concept of a reverse pilot signal is not mentioned, and in fact the mobile unit uses the cell-site transmitted pilot signals to determine

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strength of cells and other functions. There is no suggestion in Gilhousen, et al. that a locally generated pilot signal be provided by the mobile units.

Therefore a combination of the prior art with Gilhousen, et al. would necessarily contradict (or "teach away from") the use of a locally generated pilot signal in the mobile unit. Applicant's claims specify, "... means for generating a remote reference signal at the remote unit and means to synchronize the remote reference signal with the detected reference signal... ." (Claim 1; claim 5 similar.) Applicant further defines "...recovering the message data of at least one of the message signals using information from the detected reference signal." (Claim 1; other independent claims similar.)

These features are neither shown nor suggested by the prior art of record, when taken in combination or individually. Accordingly claims 7-9 are unobvious and allowable over the prior art of record.

It is therefore submitted that the application, as presently amended, defines patentable subject matter. Therefore, the application is in a condition for allowance. Such allowance at an early date is respectfully requested.

If the Examiner feels that a conference will expedite the prosecution of this case, the Examiner is cordially invited to call the undersigned. To that end, an Examiner's amendment to this case would be welcomed and appreciated.

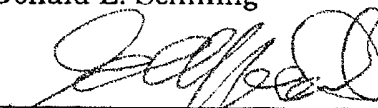
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The foregoing is believed to be a complete response to the outstanding office action.

For the above reasons, Applicant respectfully submits that the presently claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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